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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,449	07/31/2003	Lynn Bich-Quy Le	1229.0001	3797

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Jeffrey Wax
Wax Law Group
Suite 407
2118 Wilshire Boulevard
Santa Monica, CA 90403

EXAMINER

KRAUSE, JUSTIN MITCHELL

ART UNIT PAPER NUMBER

3682

DATE MAILED: 08/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/632,449

Applicant(s)

LE ET AL.

Examiner

Justin Krause

Art Unit

3682

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-21 and 31-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-21 and 31-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Species 1 (Figure 2) in the reply filed on June 26, 2006 is acknowledged. The traversal is on the ground(s) that Figure 3 is a detailed view of the embodiment shown in figure 2. With respect to this argument, the examiner withdraws the restriction requirement between Figures 2 and 3, however the examiner notes that the specification and drawings are confusing in regards to pointing out that figure 2 and 3 show the same embodiment. Objections in regards to this matter are listed below.

Regarding the restriction between figures 2 and 7, because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 15-21 and 31-39 are pending, all other claims having been withdrawn by applicant.

Drawings

1. The drawings are objected to because applicant alleges figure 3 is a closer more detailed view of figure 2, however examination of figures 2 and 3 reveal significant discrepancies. Some examples include but are not limited to:

Figure 2 shows the thrust plate secured by some type of threaded fastener, figure 3 does not.

Figure 3 appears to show the thrust plate and shaft as a monolithic body, figure 2 clearly shows the thrust plate as a sleeve the shaft is inserted into.

Figure 2 shows grooves, the similar view of figure 3 does not show grooves.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: In the brief description of the drawings, if applicant's intent is that figure 3 is a detailed view of

figure 2, then that relationship should be explicitly stated. As currently written: "Fig 3 is **another** sectional side view... illustrating a closer and more detailed view... in accordance with **an** embodiment." (emphasis added) Does not make clear that figure 3 is related to figure 2 in any way. If figure 3 is related to figure 2, then applicant should replace "an embodiment" with --the embodiment of figure 2--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 15-21 and 31-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 15, the shield is attached to one of "a stationary component" and "a rotatable component, and it is not clear if these components correspond to the "inner component" and the "outer component" or if these are new components that are being claimed.

Regarding claim 34, "substantially circulates" is indefinite because it is not clear how the fluid could circulate only part of the way and not complete the fluid circuit. It would seem that the fluid circulates, or it does not circulate.

Regarding claim 35, "relatively" tapered is indefinite because it is unclear what the meaning of the phrase is. Are the surfaces tapered relative to each other? Are the surfaces tapered to an undefined relative degree?

Regarding claim 33, definition of the word "passageway" is required. The term 'sleeve passageway' as used in claim 32 denotes a hole or channel through the sleeve. Claim 33 alludes to a similar relationship where the thrust bearing has a hole or channel passing through it, however as claimed, the second fluid passageway passes between two members (the outer component and the radial member).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

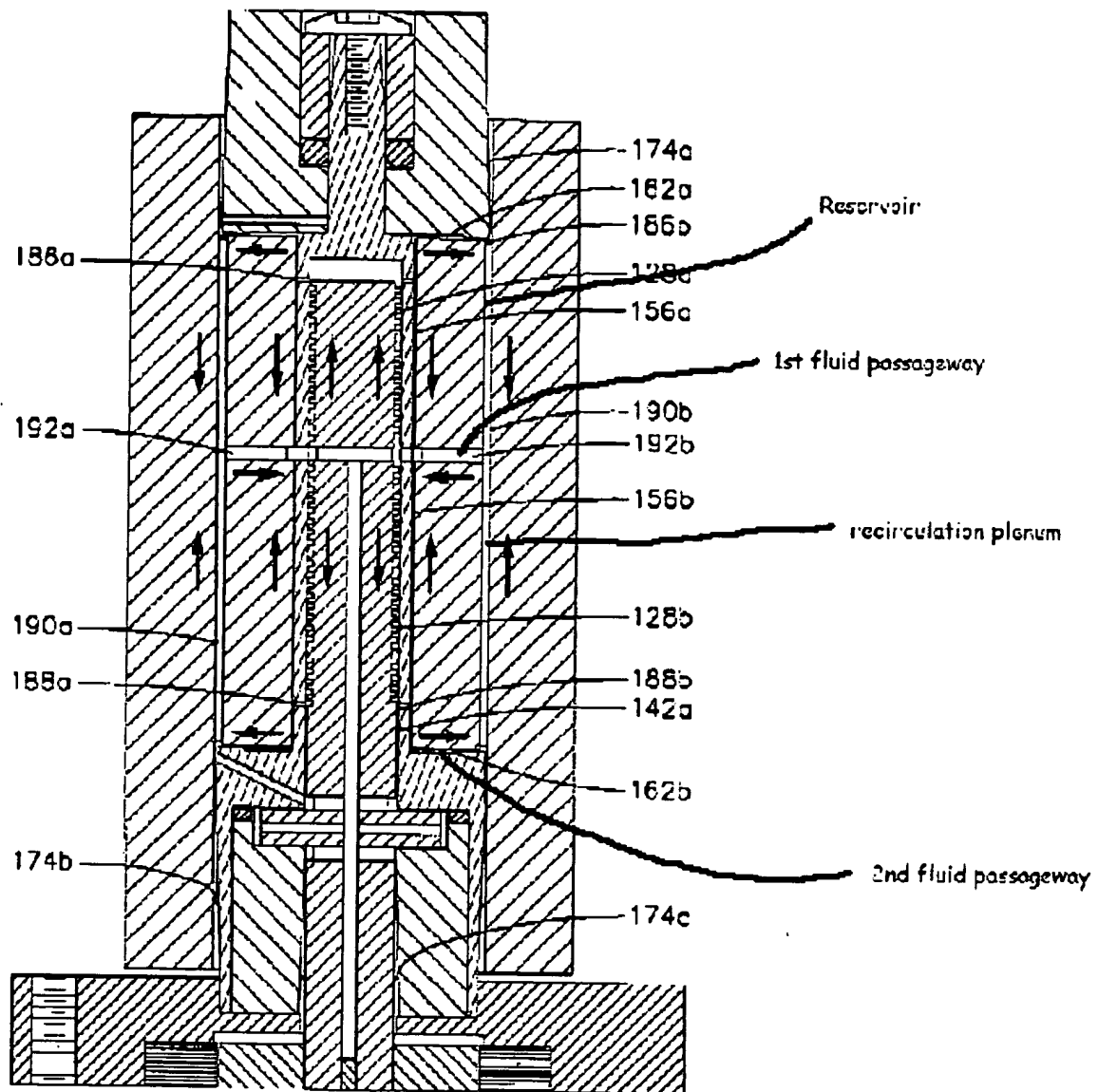
6. Claims 15, 20, 34-36 and 39, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Titcomb (US Patent 6,315,452).

Titcomb discloses a hydrodynamic bearing assembly for use in combination with a spindle motor of a disc drive device comprising:

-a journal (generally 156) defined between an inner component (112) and an outer component (146), which are positioned for relative rotation.

-a fluid recirculation passageway including a first fluid passageway (192) defined within the outer component and in fluid communication with a second fluid passageway (162b), the second fluid passageway defined between the outer component and a radial member (158b) extending radially from the inner component, the first and second passageways in fluid communication with the journal at separate locations,

-a shield (160) affixed to the stationary component, defining a reservoir (190) with the outer component, and a recirculation plenum is defined by a junction joining the reservoir, the first fluid passageway and the second fluid passageway, and means for sealing the reservoir.



Regarding claim 34, the device comprises means for creating an asymmetric pressure gradient within the fluid recirculation passageway (see fig 7), circulating fluid and purging air in the fluid, wherein the fluid substantially circulates about the journal, the first fluid passageway and the second fluid passageway (see figure 3).

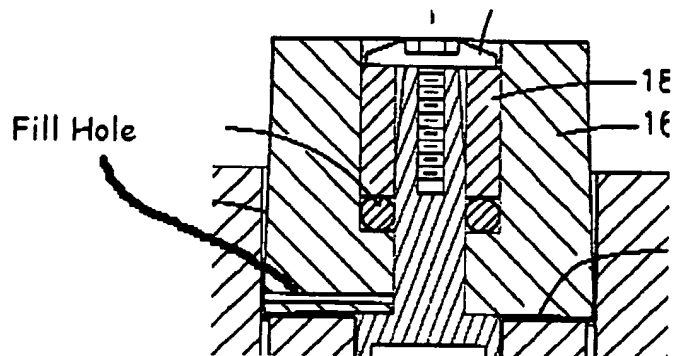
Regarding claim 35, the shield and outer component form adjacent surfaces that are relatively tapered and converge toward the recirculation plenum.

Regarding claim 36, the use of the shield as a travel limiter is an intended use or function of previously claimed structure and does not further limit the structure of the device (see MPEP 2114), however the examiner notes that in the device of Titcomb, the shield is capable of being a travel limiter for the outer component.

Regarding claim 39, a variable journal gap is disclosed and is radially wider (see fig 2d) substantially adjacent to a journal plenum as compared to the remainder of the journal, wherein the journal plenum is defined at a joining position of the first fluid passageway and the journal.

Regarding claim 18, Figures 9 and 10 disclose alternative embodiments with axial channels (212a, 220a) on at least a portion of an inner surface of the shield, extending from the recirculation plenum and along the reservoir.

Regarding claim 19, a fill hole (see fig below) is defined within the shield, wherein a meniscus is positioned between the fill hole and the fluid in the reservoir, the fill hole making an angle with the surface of the shield.



Regarding claim 20, the inner component is affixed relative to a base and to a top cover plate, the outer component rotates relative to the inner component.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 17, 21 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Titcomb.

Regarding claims 17 and 21, while Titcomb does not disclose the reservoir to hold up to 2.5 mg of fluid or that the engagement interface of the radial member with a base ranges from 3-5mm, the selection of dimensions is contingent on the size/scale of

the device and is a matter of suitability for the intended use, which is not in itself patentable.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the reservoir hold up to 2.5 mg of fluid and the interface of the base and radial member to be 3-5mm as a matter of suitability for the intended use of the design. A change in size or scale is generally recognized as being within the level of ordinary skill in the art. *In Re Rose, 105 USPQ 237 (CCPA 1955)*.

Regarding claim 37, Titcomb discloses a grooving pattern with asymmetric grooves, however does not provide any criticality that the grooving pattern must be asymmetric.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the grooving pattern of dimensions suitable for the desired fluid flow characteristics needed for the use of the device, including symmetric grooving.

Allowable Subject Matter

9. Claims 16 and 38 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMK
8/29/06



RICHARD RIDLEY
SUPERVISORY PATENT EXAMINER